SEXUAL WELLNESS IN WASHINGTON AND OZAUKEE COUNTIES

2010-2020

WASHINGTON OZAUKEE
PUBLIC HEALTH DEPARTMENT

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Executive Summary

This report highlights the available, although limited, information and data on sexual behaviors and outcomes, prevention strategies, partner abuse, sexual violence, and child sexual abuse in Ozaukee and Washington County, Wisconsin. It is important to collect and review data on these topics to assess progress toward goals, identify groups that are at higher risk of certain health outcomes, determine what barriers certain populations have to health care, and identify interventions that could be continued or developed to improve health outcomes and health care access and availability.

Key Findings

Local sexually transmitted infections (STIs) data trends in Ozaukee and Washington Counties follow national trends that STIs are on the rise.

- The gonorrhea rates in both Washington and Ozaukee Counties have roughly doubled from 2010 to 2020.
- Both counties had higher rates of syphilis in 2020 than any year in the past decade.
- Roughly half of all cases of chlamydia and gonorrhea in both Washington and Ozaukee Counties are among adolescents and young adults aged 15-24. STI rates in both counties are also significantly higher in women and African American and Hispanic populations.

It is important to advocate for and promote comprehensive evidence-based sexual health education/curriculum as it has positive effects on multiple key sexual health outcomes, including reducing or delaying sexual activity, increasing use of condoms, and reducing STIs.

Promotion and education on Human Papillomavirus (HPV) vaccination can also reduce the prevalence and incidence of cancer causing STIs. Washington County, Ozaukee County, and Wisconsin as a whole have low rates of HPV vaccination completion.

The Youth Risk Behavior Survey (YRBS) is a data collection tool used to monitor health behaviors, in youth and young adults in the United States. Washington County public school districts participate, but there is a gap in available data on youth risk and protective factors as Ozaukee County has not implemented the YRBS.

- A key finding from the YRBS is that twice as many Washington County high school students who are sexually active did not use a condom the last time they had sexual intercourse compared to the state average.

Data collection tools like the YRBS and statistics collected from local support services also show that partner abuse, domestic violence, and sexual assault are prevalent in both counties. It is important to assess and understand this data and recognize that sexual wellness in our communities can be improved upon, attained, and maintained.

Considerations

It is important to consider that the following data are reflective of cases that were diagnosed and reported to the state of Wisconsin. While these trends may be indicative of a true change in the incidence of infection, there are other factors such as changes in diagnostics, screening, and reporting that must be considered.

Impact of COVID-19. The Covid-19 pandemic has affected STI services in numerous ways. As of March 2020, many non-urgent visits, such as STI testing and annual exams, were postponed or canceled, and time and resources were redirected to fighting the pandemic (Think Global Health, 2021). Based on a study of young adults in Baltimore during a stay-at-home order, this is likely not reflective of a change in sexual behavior, but rather a change in access to testing and services (Think Global Health, 2021).

Antibiotic Resistance. It is also important to note the rise in antibiotic resistance to STIs, particularly in gonorrhea. In 2016, an initiative called Strengthening the United States Response to Resistant Gonorrhea (SURRG) started surveying antibiotic resistance in gonorrhea. In 2019, 20% of all gonorrhea positive cases in SURRG clients were found to have a specimen with reduced antimicrobial susceptibility to at least one of the antibiotics recommended for dual treatment of gonorrhea (Amsterdam & Bhattacharyya, 2020). Resistant gonorrhea has been associated with prolonged infections and long-term complications, often followed by a rapid spread of the disease (World Health Organization, 2020).

Sexually Transmitted Infection Data

Sexually transmitted infections (STIs) – also known as sexually transmitted diseases (STDs) – are infections that spread mainly through sexual contact with an infected partner, although it is possible for these infections to be transmitted non-sexually, such as during pregnancy or childbirth, through blood transfusions, or through shared needles (Mayo Clinic, 2021). The most common reportable STIs in the state of Wisconsin are Chlamydia, Gonorrhea, and Syphilis (Wisconsin Department of Health Services, 2020). All newly diagnosed cases of any of these infections must be reported to the state.

According to the CDC, getting tested for STIs is one of the most important measures that can be taken to protect your health (2014). Being honest about your sexual history and current behaviors can help you and your doctor come up with an appropriate plan for STI testing. In general, the CDC recommends that all sexually active women under the age of 25 and all sexually active men who have sex with men (MSM) should be tested once a year for syphilis, chlamydia and gonorrhea. It is also recommended that all pregnant women are tested for syphilis, HIV, hepatitis B, and hepatitis C early in the pregnancy. All adults and adolescents aged 13-64 should be tested at least once for HIV. Populations at higher risk, such as men who have sex with men, anyone who has unsafe sex, anyone who shares injection drug equipment, and people with an HIV positive sexual partner, should be tested at least once a year. Both Ozaukee and Washington County have relatively low rates of STI testing. As of 2019, only an estimated 35% of people over the age of 18 in Ozaukee County had ever been tested for an STI (*Ozaukee County, 2019)* and only 37% of people over the age of 18 in Washington County had ever been tested for an STI (*Washington County,* 2019).

Chlamydia and Gonorrhea in Washington and Ozaukee Counties

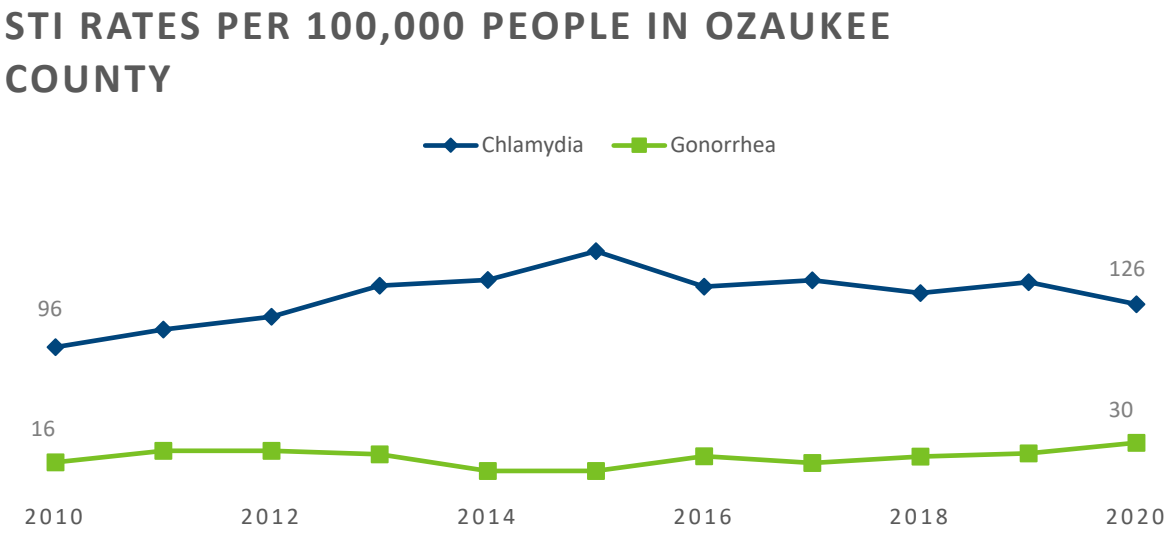

Figure 1: Data were retrieved from the Wisconsin Electronic Disease Surveillance System (WEDSS) on 7/14/2021.

Summary of Chlamydia in Ozaukee County:

- In 2020, 126 confirmed cases per 100,000 people were reported in Ozaukee County.
- This is a decrease from 141 confirmed cases per 100,000 people reported in 2019, but is the same as the ten-year average from 2010-2019 of 132 cases per 100,000 people per year.
- Rates of reported chlamydia were highest among 15-24 year olds.
- Similar to national rates, rates of reported chlamydia in 2020 were higher among women, likely in part reflecting the large number of women screened for this infection (City of Milwaukee Health Department, 2017).

Summary of Gonorrhea in Ozaukee County:

- In 2020, roughly 30 cases per 100,000 people were reported in Ozaukee County.
- This is an increase from 22 confirmed cases per 100,000 people reported in 2019 and an increase from the ten-year average from 2010-2019 of 20 cases per 100,000 people per year.
- Rates of reported gonorrhea were highest among 15-24 year olds.

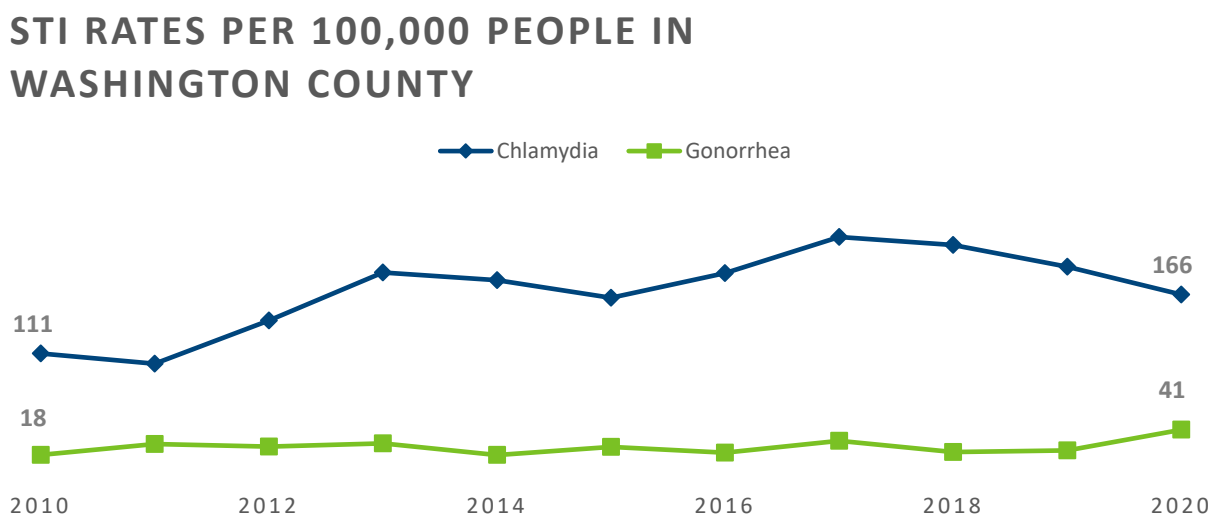

Figure 2: Data were retrieved from the Wisconsin Electronic Disease Surveillance System (WEDSS) on 7/14/2021.

Summary of Chlamydia in Washington County:

- In 2020, roughly 166 confirmed cases per 100,000 people were reported in Washington County.
- This is a decrease from 191 confirmed cases per 100,000 people reported in 2019 and is a slight decrease from the ten-year average from 2010-2019 of 169 confirmed cases per 100,000 people per year.
- Rates of reported chlamydia were highest among 15-24 year olds.
- Similar to national rates, rates of reported chlamydia in 2020 were higher among women, likely in part reflecting the large number of women screened for this infection (City of Milwaukee Health Department, 2017).

Summary of Gonorrhea in Washington County:

- In 2020, roughly 41 confirmed cases per 100,000 people were reported in Washington County.
- This is an increase from 22 confirmed cases per 100,000 people reported in 2019 and an increase from the ten-year average from 2010-2019 of 24 confirmed cases per 100,000 people per year.
- Rates of reported gonorrhea were highest among 15-24 year olds.

Syphilis

Over the last decade, there has been a resurgence of Syphilis across the United States despite available treatments and previously reliable prevention strategies, possibly through underutilization and lack of implementation of these programs (Schmidt, 2019). More locally, the City of Milwaukee has seen a 300% increase in syphilis cases during the Covid-19 pandemic (Paradis, 2021). Based on an analysis of data from the Wisconsin Electronic Disease Surveillance System (WEDSS), it was determined that the current syphilis epidemic is isolated to the City of

Milwaukee and does not affect the incidence of the surrounding Southeast Region of Wisconsin. However, 6 counties in Southeast Wisconsin were considered to have high prevalence for the first time in 2020. There is not an official definition of high syphilis prevalence, but any community with greater than 2 cases per 100,000 or 5 cases in total are generally considered high prevalence (CDC, 2015). While Washington and Ozaukee Counties are not considered high prevalence, based on an analysis of data from WEDSS, both counties reported higher incidence of syphilis in 2020 than any year of the previous decade. Exact case numbers have been suppressed to maintain confidentiality.

Incidence of syphilis is highest among the population of men who have sex with men (MSM) and men who have sex with men and women (MSMW). According to Schmidt (2019) recent advancements in prevention and treatment measures for HIV have "potentially altered the perceived susceptibility and/or severity associated with HIV infection (i.e., chronic vs fatal disease)" (p. 3). Changed perceptions of risk have conceivably led to a reduction of condom use. Incidence of syphilis is also rising among premenopausal women, which expectedly coincides with an increase of cases of congenital syphilis nationwide.

While incidence of syphilis seems low compared to chlamydia and gonorrhea, untreated syphilis is associated with severe and long-term health implications, including neurological complications, hearing loss, blindness, and an increased likelihood of contracting other STIs, such as HIV (Schmidt, 2019). Syphilis infection in pregnant females can lead to congenital syphilis in their unborn child. It is estimated that up to ~40% of babies who are infected with syphilis prenatally are born stillborn or die from the infection in the newborn phase (CDC, 2015).

HIV/AIDS

Human Immunodeficiency Virus, or HIV, is a virus that if allowed to advance can turn into Acquired Immune Deficiency Syndrome, or AIDS. First documented in 1981, there have been incredible advancements in the treatment and prevention of HIV/AIDS, although there is still not a complete cure. For people who are HIV-negative, pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) medicines have been found to be very effective in preventing potential HIV transmission from an HIV-positive partner (Sinha Dutta, 2021). People who are HIV-positive receive treatment in the form of antiretroviral therapy (ART). ART has shown to be very effective in reducing the person's viral load, therefore allowing them to lead a healthy life with little to no risk of transmitting the virus to their partners. Due to these advancements in treatment, the perceived risk associated with HIV has decreased (Schmidt, 2019).

HIV rates in both Washington and Ozaukee Counties have been consistently below five cases per 100,000 per year. Because of this, exact case numbers and demographics have been suppressed. Despite low incidence rates locally and reduced risk of severe complications or death from HIV, it is important to continue to stress the use of preventative measures, such as practicing safer sex and utilizing PrEP if engaging in sexual behavior with a partner who is HIV-positive.

Disparities

Due to various biological, behavioral, social, and economic factors, STI rates tend to be higher nationwide among the following populations: young people, females and racial and ethnic minorities (City of Milwaukee Health Department, 2017). Higher reported rates of chlamydia and gonorrhea are likely due to differential access to quality sexual health care and differences in sexual network characteristics, rather than differences in individual-level or population-level sexual behavior (CDC, 2021a; 2021b; 2019). In a community with an existing high prevalence of STIs, each sexual encounter is more likely to involve an infected partner, regardless of similar sexual behavior patterns.

Young people

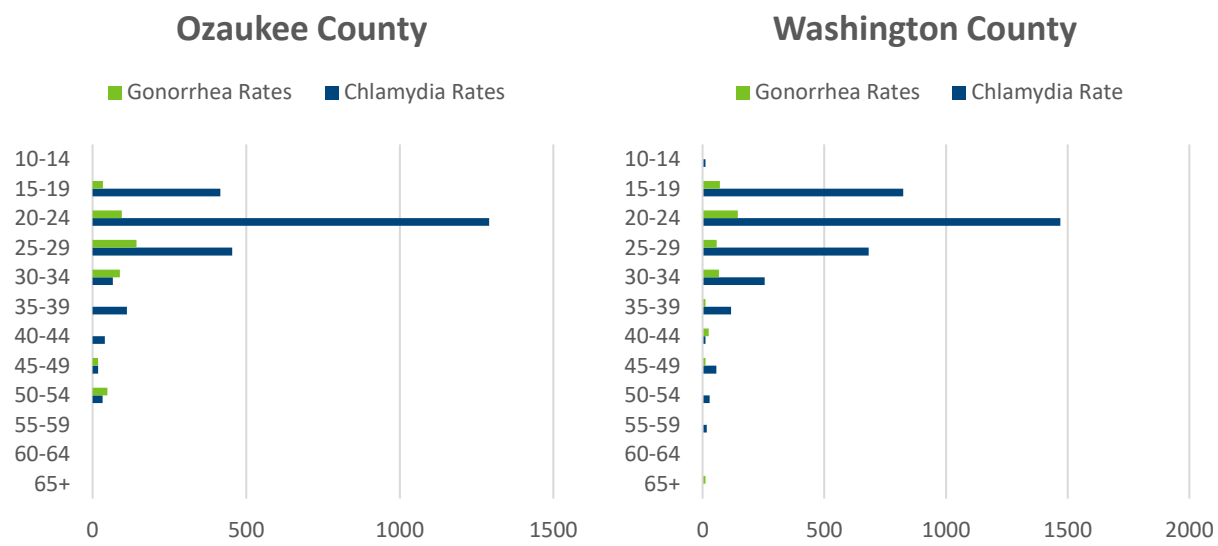

Figure 3: Data were retrieved from the Wisconsin Electronic Database Surveillance System (WEDSS) on 7/14/2021.

Over half of all cases of chlamydia and gonorrhea in Ozaukee County, over half of all cases of chlamydia in Washington County, and nearly half of all cases of gonorrhea in Washington County are among adolescents and young adults aged 15-24.

There are several possible contributing factors that could help explain this disparity, including:

- Lack of health insurance or an inability to pay for services
- Lack of transportation to access services
- Concern about confidentiality in accessing services or using parents' health insurance
- Adolescents and young adults are often uncomfortable with or distrusting of STI facilities and services that largely target adult populations.
- Young people tend to be more likely to engage in risky sexual behaviors

Females

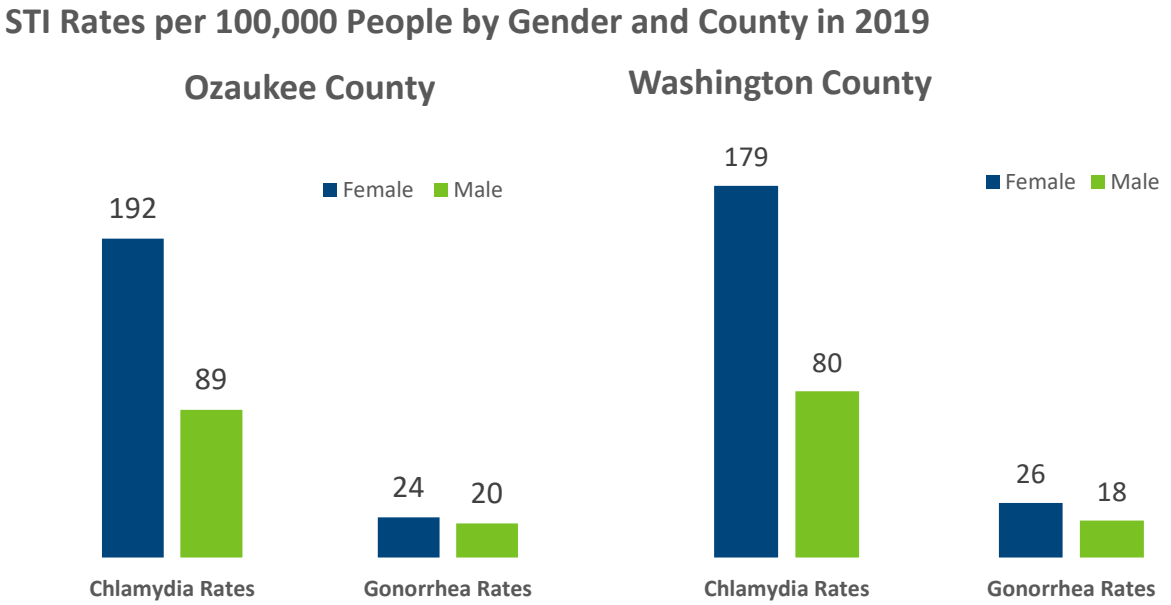

Figure 4: Data were retrieved from the Wisconsin Electronic Database Surveillance System (WEDSS) on 7/14/2021.

Women are more susceptible to STI infection and more likely to experience health complications from an untreated STI (City of Milwaukee Health Department, 2017). It is estimated that untreated STIs cause infertility in up to 24,000 women in the United States each year, while the same STIs result in few complications in men. (CDC, 2011).

There are several possible contributing factors that could help explain this disparity in incidence rates and severity of infection, including:

- Because the lining of the vagina is thinner than the skin on a penis, it's easier for virus and bacteria to penetrate (CDC, 2011).
- Women often have less common symptoms of STIs and more often confuse the symptoms for something else, such as a yeast infection (CDC, 2011).
- Women may not see symptoms as easily as men.
- Women, especially young adult women, are generally recommended to be screened more often than men (CDC, 2014).

Racial/ethnic minorities

STI Rates per 100,000 People by Race/Ethnicity and County in 2019

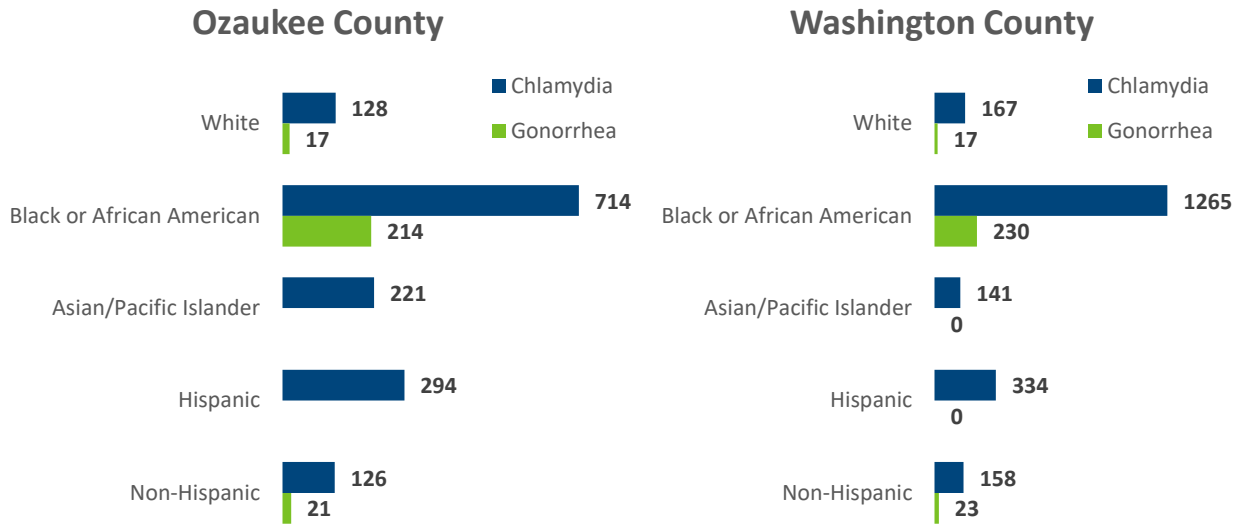

Figure 5: Data were retrieved from the Wisconsin Department of Health Services (DHS) surveillance reports (DHS, 2021a; 2021b). Data with zero values were omitted (American Indian, unknown, and other).

In both Ozaukee and Washington Counties, STI rates, chlamydia in particular, are significantly higher among the African American and Hispanic populations (Department of Health Services, 2021). It is important to note that these differences are attributed to differences in access to quality sexual health care and preexisting prevalence within sexual networks, and not differences in individual-level or population-level sexual behavior (CDC, 2021a; 2021b). While racial and ethnic identity are strongly correlated with factors affecting overall health status, they are not causes of health outcomes, including STI rates.

There are several possible contributing factors that could help explain this disparity, including:

- A higher proportion of the African American and Hispanic populations live below the poverty line, making it more difficult to access and afford quality health care, including sexual health services (CDC, 2019).
- Fear and distrust of health care institutions can discourage people from seeking advice and/or treatment. Social and cultural discrimination, language barriers, and provider bias, both real and perceived, can act as a barrier to receiving care (CDC, 2019).
- Once there is a high incidence rate of STIs within a community, each sexual encounter presents a greater chance of an STI being transmitted (CDC, 2019).

Reproductive and HPV-related cancers

Cancers that start in the organs related to reproduction or sex are known as reproductive cancers (Office of Population Affairs, n.d.). According to the Office of Population Affairs, the most common reproductive cancers among females are cervical cancer, breast cancer, ovarian cancer, uterine cancer, vaginal cancer, and vulvar cancer. While breast cancer is not technically a reproductive cancer, screening often happens in the same visit as tests for reproductive cancers and is often considered a reproductive cancer (OPA, n.d.). The most common reproductive cancers among men are testicular cancer, penile cancer, and prostate cancer.

Many reproductive cancers and non-reproductive cancers are caused by the human papillomavirus, or HPV. HPV is the most common STI in the United States that affects roughly 80% of all women and men at some point in their life (American Cancer Society, 2016). According to the American Cancer Society, most HPV infections are cleared by the immune system in one or two years, however HPV infections can cause serious health issues in women and men. HPV causes almost all cervical cancers, cervical cancer precursors, and anal cancers, and the majority of oropharyngeal (back of the throat, base of the tongue, and tonsils) cancers, vaginal cancers, vulvar cancers, and penile cancers (American Cancer Society, 2016). The most recent county level data on HPV-related cancers is from the five-year period from 2013-2017.

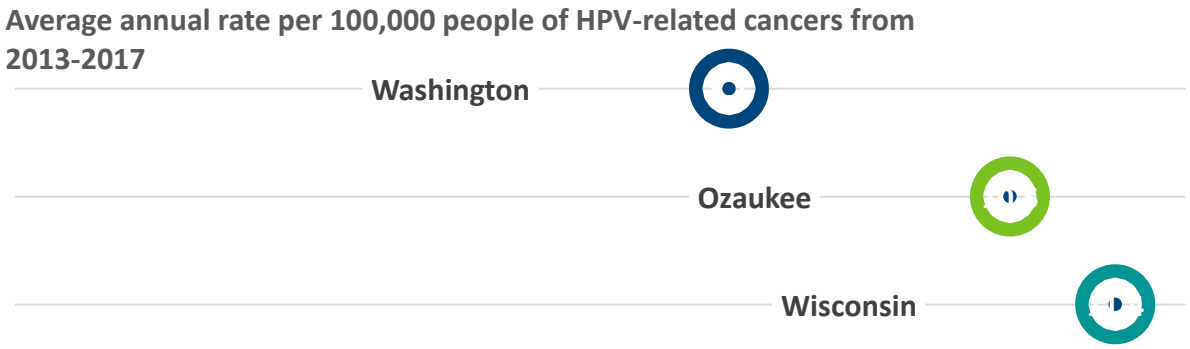

Figure 6: Data were retrieved from the Wisconsin Cancer Collaborative (2021a; 2021b).

HPV vaccines are highly effective in preventing infection with HPV before any exposure to the virus (National Cancer Institute, 2019). In other words, the vaccination should be given before individuals begin to engage in sexual activity. Gardasil 9 is one licensed HPV vaccine in the United States that helps protect against nine types of cancer-causing HPV infections (CDC, 2020c). Wisconsin HPV vaccination rates have been improving, however, they are still well below the goal of an 80% vaccination completion rate by 2020 (Wisconsin Cancer Collaborative, 2021a; 2021b).

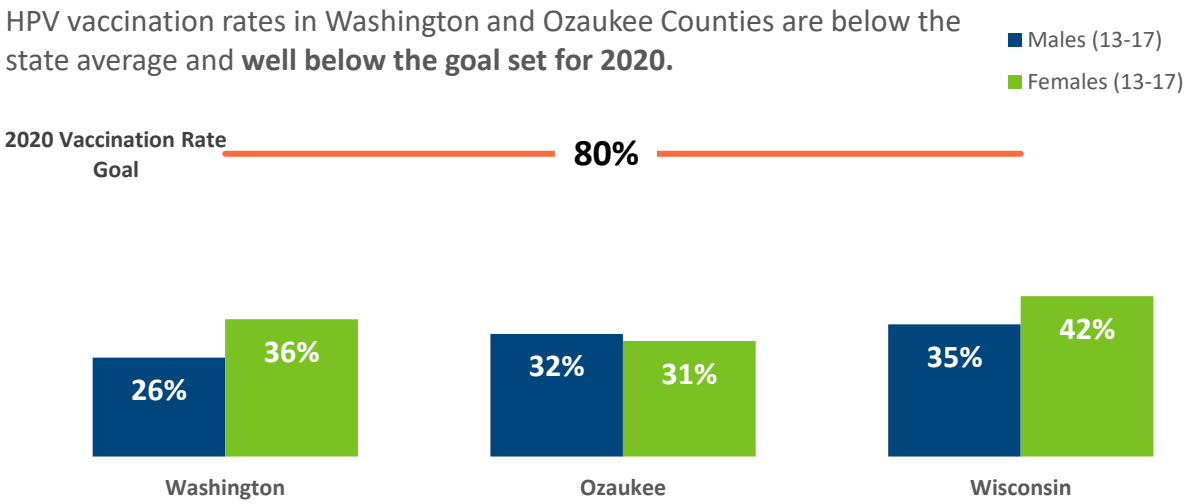

Figure 7: HPV vaccination rates in 2020 by gender and county compared to 2020 vaccination goal. Data were retrieved from the Wisconsin Cancer Collaborative (2021a; 2021b).

According to the American Cancer Society, following the recommended screenings for reproductive cancers, such as mammograms, Pap smears, and cervical cancer screens for women (2021a) and screening tests for prostate cancer for men (2021b), is the most effective way to aid in early detection, and therefore early and oftentimes less invasive treatment options. While the HPV vaccine is quite effective, no vaccine is 100% effective. It is still recommended that women are screened and tested regularly based on their age and risk factors (OPA, n.d.). Community Health Survey Reports from 2008-2019, show a statistically significant decrease in the percentage of respondents aged 18-65 who received a Pap smear within the recommended time frame in Washington County (2019, p. 12) and no change in Ozaukee County (2019, p. 12). From 2014-2019, there was a decrease in the percentage of respondents aged 18-65 who received a cervical cancer screen within the recommended time frame. Increased education on the importance of regular screenings paired with increased accessibility for all, regardless of insurance status, has been shown to encourage more women and men to follow regular screening recommendations (OPA, 2020).

According to the National Breast Cancer Foundation, 1 in 8 women will be diagnosed with Breast Cancer at some point in their life (2020). Breast cancer is currently the leading cause of cancer death in women around the world, and although it is not preventable, early detection and treatment can greatly improve a patient's outcome (American Cancer Society, 2021a). The American Cancer Society found that when detected at an early and localized stage, the five-year survival rate is as high as 99%. For this reason, it is recommended that women of all ages perform monthly breast self-exams and that women over 45 or those indicated as high-risk should have regular clinical breast exams and mammography (National Breast Cancer Foundation, 2020). Breast cancer mortality rates in the US decreased by 40% from 1989 to 2017, and evidence points towards increased screening practices starting in the mid-1980s as a direct cause (Simon, 2019). The 2019 Community Health Survey Reports show that a smaller percentage of respondents in Washington County over the age of 50 reported having a mammogram done within the recommended time frame in 2019 compared to 2016 (*Washington County*, 2019, p. 12). There was no change found in Ozaukee County (*Ozaukee County,* 2019, p. 12).

Adolescents and young adults

Washington County Youth Risk Behavior Survey

Washington County first conducted the Youth Risk Behavior Survey (YRBS) in the spring of 2018 (Well Washington County, 2018). The purpose of the survey is to determine the prevalence of these behaviors and how/if they change over time. The results of the survey are used to understand what contributes to these behaviors, so recommendations and strategies can be given to decrease prevalence of morbidity and mortality of this population (American Public Health Association, 2014). All five public school districts in Washington County participated, with a total of 1,613 students taking the survey (see *Figure 8*). Ozaukee County has not previously conducted a YRBS in the schools. There was a YRBS scheduled to take place in 2020, however, it was delayed due to the pandemic. Neither county was able to participate in the rescheduled YRBS in 2021 (see Appendix B). The YRBS monitors the most significant causes of morbidity and mortality among youth, adolescents, and young adults.

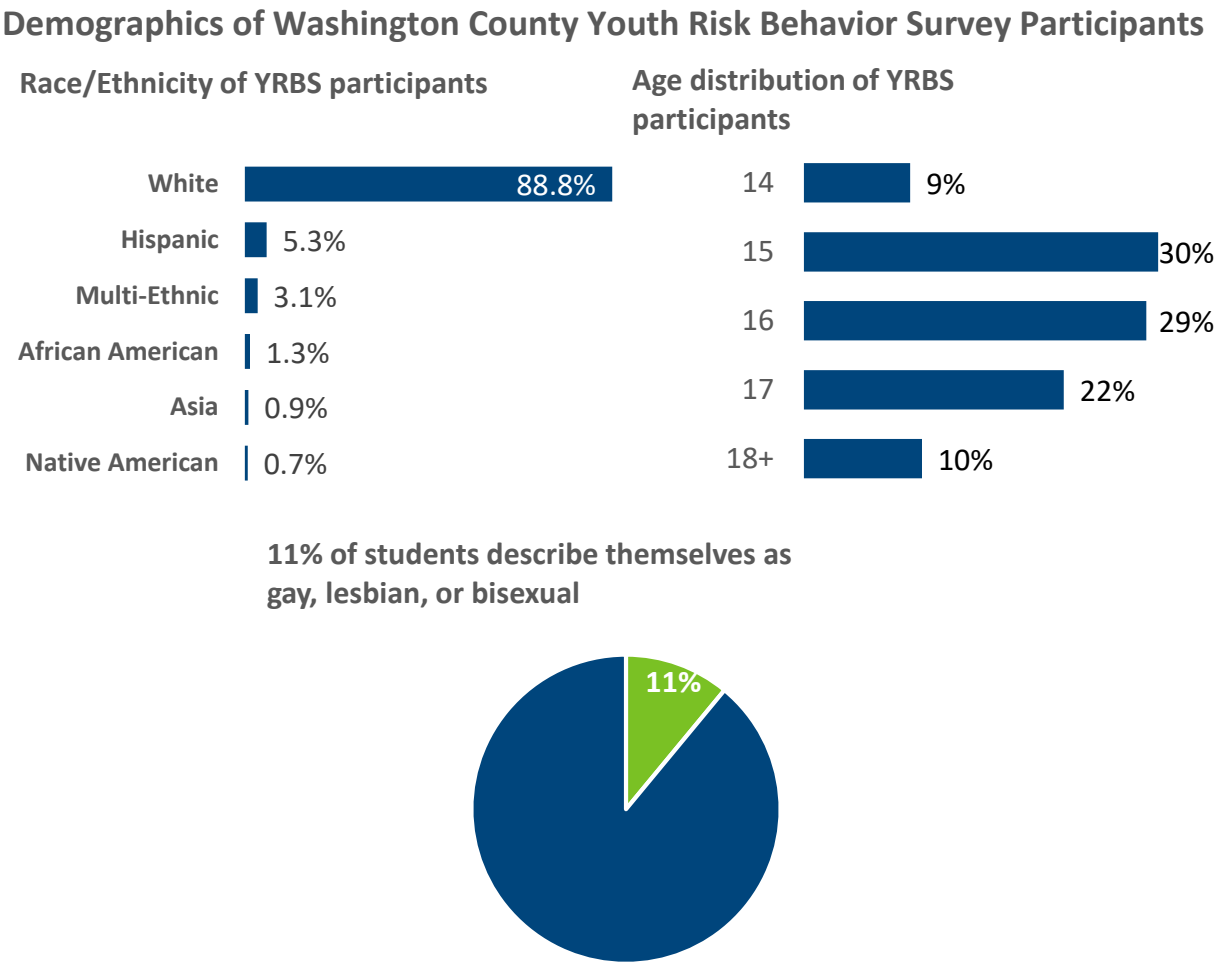

Figure 8: All statistics were retrieved from the Washington County Youth Risk Behavior Survey conducted in 2018.

It is important that sexual education is inclusive to the LGBTQ+ population. Often sex education is not inclusive to LGBTQ+ students, which leads to them being dangerously under informed on safer sex and healthy relationships. In turn, LGBTQ+ youth are often disproportionally affected by negative sexual outcomes (Slater, 2013).

The YRBS identified that risky sexual behavior is more prevalent in Washington County than the state of Wisconsin as a whole (Well Washington County, 2018). Over a quarter of students (27.1%) reported that they have had sexual intercourse. Of those students who are sexually active, 81.5% reported that they (or their partner) did not use a condom the last time they had sexual intercourse (see Appendix A). This is two times higher than the state average.

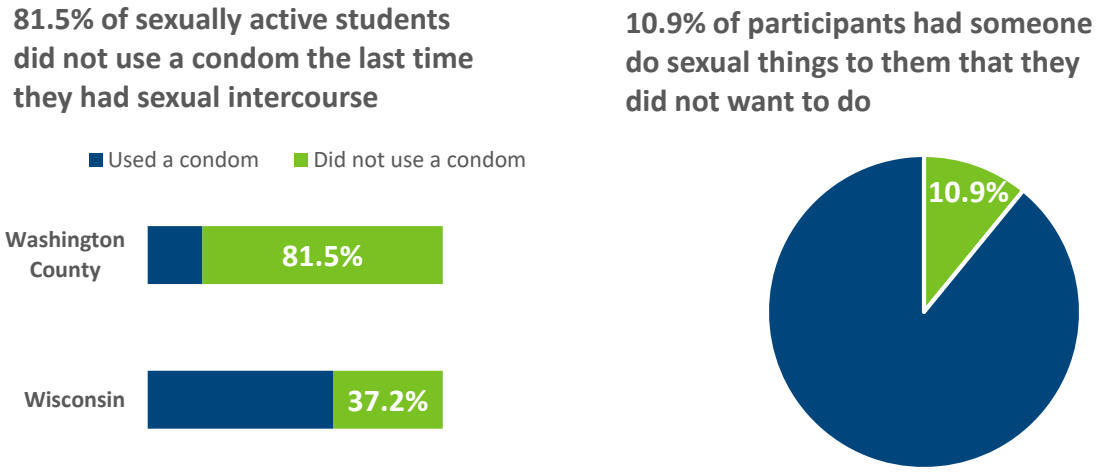

Figure 9: All statistics were retrieved from the Washington County Youth Risk Behavior Survey conducted in 2018.

Partner abuse and youth violence were also identified as health problems among youth in Washington County (Well Washington County, 2018). Out of all students who participated in the Youth Risk Behavior Survey, 10.9% reported that they had someone do sexual things to them that they did not want to do, by being pressured, lied to, making promises about the future, threatening to end the relationship, or threatening to spread rumors about them, in the last 12 months. 5.5% of students who participated in the survey reported that they had been physically forced to have sexual intercourse when they did not want to.

Teen Pregnancy

Similar to national trends, teen birth rates (defined as births per 1,000 females aged 15-19) in Washington and Ozaukee Counties have been declining since 2003 (CDC, 2021c). Reasons for the declines are somewhat unclear and likely multifaceted. According to the CDC, evidence from recent research suggests that the declining rates are due to more teens abstaining from sexual activity and an increase in birth control use among teens who are sexually active (2021c). In addition to the overall teen birth rate declining, there has been a decline in racial and ethnic disparities since 2006, with the largest declines being among Hispanic teens and black teens (Romero et al., 2016). Based on studies of community-wide initiatives run by the U.S. Department of Health and Human Services (HHS) and the CDC from 2010-2015, it was found that evidence-

based interventions and programming likely helped lessen racial and ethnic disparities (Romero et al., 2016). Despite this reduction, disparities persist and should continue to be addressed (CDC, 2021c).

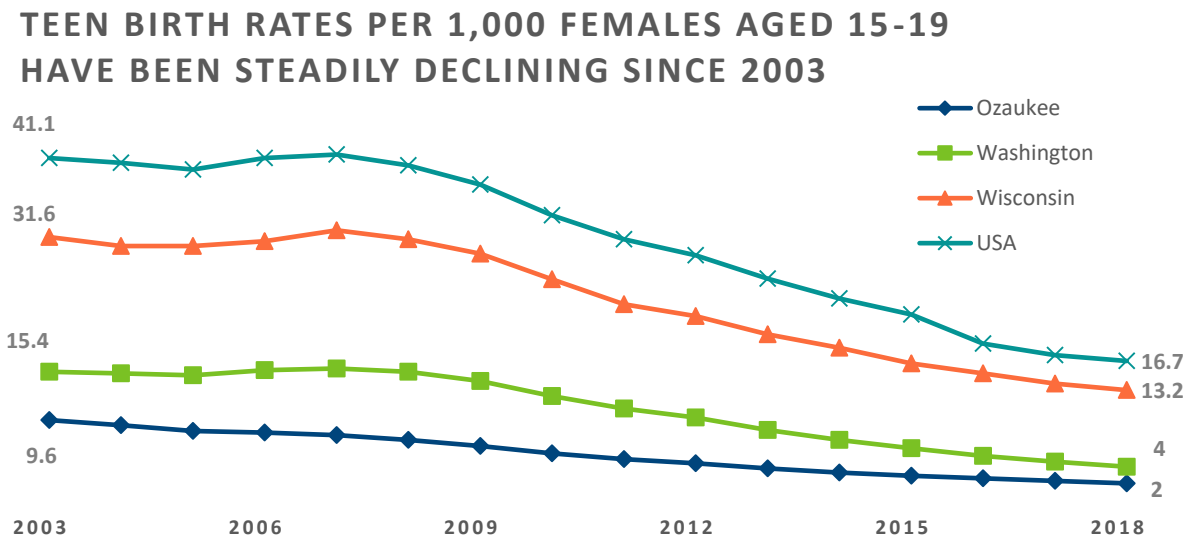

Figure 10: Data were retrieved on September 8, 2021 from the National Center for Health Statistics from the Centers of Disease Control and Prevention Website (2020a).

While teen birth rates in Washington and Ozaukee Counties are consistently lower than the statewide and nationwide averages, pregnancy prevention is still important to limit the social and economic costs, both immediate and long-term, of unplanned teen pregnancy. The burden of teen pregnancy falls on both the teen parents and the children of the teen parents. Only roughly 50% of teen mothers receive a high school diploma by the age of 22, compared to roughly 90% of girls who do not give birth as a teenager (CDC, 2021c). Children of teenage mothers are more likely to have health problems, be incarcerated during adolescence, be unemployed as a young adult, perform poorly in school, drop out of high school, and face unplanned teenage pregnancy (CDC, 2021c). According to a study done in 2019 by Manitoba Health, Seniors, and Healthy Child Manitoba, the effects of teenage pregnancy are likely multigenerational (Wall-Wieler et al., 2019).

Domestic violence and sexual assault

According to an analysis of violent crime by the Justice Department in 2016, it is estimated that nearly 80% of all rapes and sexual assaults go unreported (as cited in Kimble, 2018). One way to gain insight into the prevalence of domestic violence and sexual assault is to look at local services offering support, shelter, and prevention education. In Washington and Ozaukee Counties, Friends, Inc., Advocates of Ozaukee, and the Lakeshore Child Advocacy Center serve as primary resources for survivors of domestic violence and sexual assault (see Appendix C). In 2019, Friends, Inc. received 1,034 hotline calls and hosted 237 prevention education lessons to 7,846 individuals (Friends, Inc., 2020). Overall, 59% of services offered by Friends, Inc. were for survivors of

domestic violence, 20% were for survivors of sexual assault, and 18% were for both (Friends, Inc., 2021). In 2019, Advocates of Ozaukee received 1,114 crisis and hotline calls and provided 3,183 nights of shelter to their clients (Advocates of Ozaukee, 2019).

Sexual Assault Nurse Examiners (SANE) play an important role in collecting evidence from and providing support to patients after they experience a sexual assault. From July 1, 2020 to June 30, 2021, the Sexual Assault Nurse at Froedtert in Washington County saw 29 patients. In 2020, Aurora in Ozaukee County 12 patients received SANE services.

Similar to sexual assault among adults, the prevalence of child sexual abuse is unknown because of how often it is not reported (National Center for Victims of Crime, n.d.). According to studies done by the Director of the Crimes Against Children Research Center, up to 1 in 5 girls and 1 in 20 boys is a victim of child sexual abuse before the age of 18 (as cited in NCVC, n.d.). Contrary to the accepted and often taught narrative of "stranger danger", as many as 93% of victims under the age of 18 know their abuser (RAINN, 2021). The Covid-19 pandemic limited the amount of time children spent with mandated reporters (such as teachers). Mandated reporters are required to report any suspicion, disclosure, or discovery of abuse or neglect. Safety measures put in place to prevent the spread of Covid-19, for example stay-at-home orders and virtual school, hindered the ability for mandated reporters to notice sexual or domestic abuse in children and limited children's ability to tell mandated reporters about any sexual or domestic abuse they experienced or knew about.

According to data from the Lakeshore Child Advocacy Center (CAC), in 2020 there were 89 forensic interviews and 11 child abuse medical exams conducted in Ozaukee County. In the same period, there were 83 forensic interviews and 14 child abuse medical exams conducted in Washington County. In both counties, the most common abuse type resulting in a visit to the center was sexual abuse. These are reflective of exams, interviews, and visits that took place in each county, and is not necessarily reflective of county of residence.

Number of Visits to the Lakeshore Child Advocacy Center by Primary Abuse Type

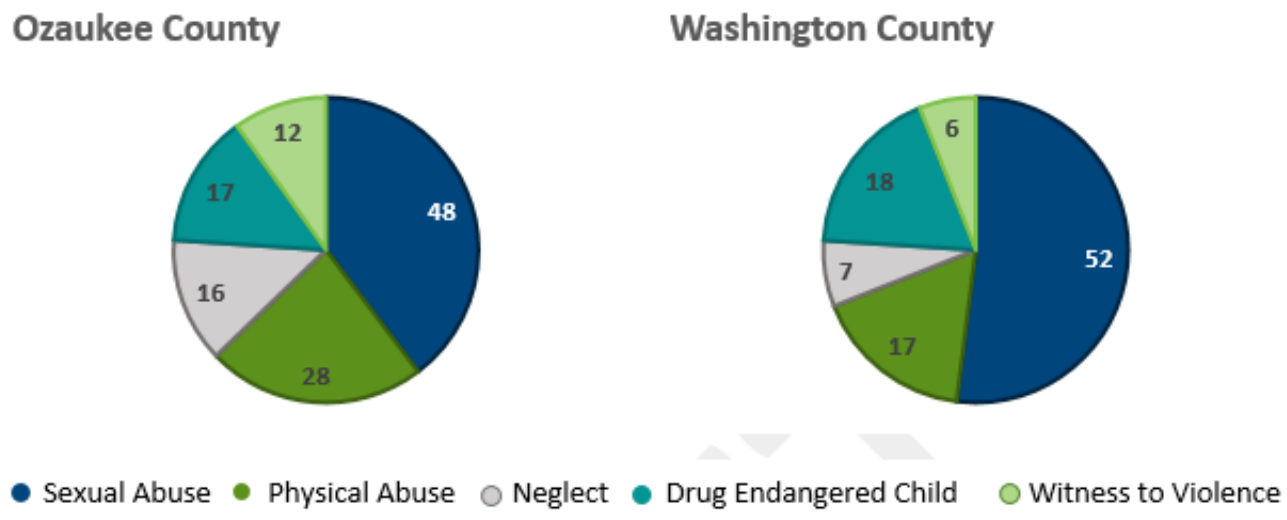

Figure 11: Data were retrieved directly from the Lakeshore Child Advocacy Center on June 29, 2021.

Discussion

Adolescents (10- to 19-year-olds) and young adults (20- to 24-year-olds) are at a higher risk of acquiring STIs than people in other age groups (American Public Health Association, 2014). Risky sexual behavior, limited access to healthcare, and social networks with high STI rates can lead to sexually transmitted infections, unintended pregnancies, and negative social and psychological development. According to the CDC (2020b), the Youth Risk Behavior Survey (YRBS) is a data collection tool used to monitor health behaviors that often lead to morbidity and mortality in youth and young adults in the United States. Sexual behaviors related to transmission of STIs is one of the main behaviors being assessed in the survey. The purpose of the survey is to determine the prevalence of these behaviors and how/if they change over time. The results of the survey are used to understand what contributes to these behaviors, so recommendations and strategies can be given to decrease prevalence of morbidity and mortality of this population (American Public Health Association, 2014).

Advocating to implement the YRBS in Ozaukee County school districts and to continue implementing the survey in Washington County is very important to provide comparable data. There is a gap in the data we are able to provide at this time due to Ozaukee County's history of not participating. There needs to be continued advocacy to keep conducting the YRBS in Washington County school districts and to start conducting it in Ozaukee County (see Appendix B). That way, it is possible to assess what health behaviors have improved or decreased over time. Continuation of implementing the survey will help determine what the health needs are of adolescents and young adults in Washington and Ozaukee Counties.

Along with advocating to conduct the YRBS, it is important to advocate for and promote comprehensive evidence-based sexual health education/curriculum (see Appendix B). There are many contributing factors that can lead to someone contracting an STI, which, in turn, means multiple prevention strategies need to be utilized to have a positive impact on sexual behavior. One of these strategies that is proven to be effective and have a positive impact on adolescents and young adults is comprehensive sexual education (see Appendix A). Reviews of the effectiveness of this type of education have continued to show positive effects on multiple key sexual health outcomes, including reducing or delaying sexual activity, increasing use of condoms, and reducing STIs. Comprehensive sexual education provides information on a broad range of topics including: puberty, reproductive health, interpersonal relationships, body image, harassment, stigma and discrimination, intimate partner violence, gender norms, gender identity, and sexual orientation (APHA, 2014). It is important that sexual education is inclusive to the LGBTQ+ population. Often sex education is not inclusive to LGBTQ+ students, which leads to them being dangerously under informed on safer sex and healthy relationships. In turn, LGBTQ+ youth are often disproportionally affected by negative sexual outcomes (Slater, 2013). The American Public Health Association (2014) states the best practice is to start this education in kindergarten and continue through 12th grade with teachers who have proper training and teach topics at the appropriate age (para. 12). Their research shows that this education is very effective in developing communication and decision-making skills, so that youth can make informed decisions to practice safe behaviors.

Methods

- All STI data were collected from Wisconsin Public Health Information Network (PHIN), which aggregates data from the Wisconsin Electronic Database Surveillance System (WEDSS).
- Population estimates and demographic information from 2010-2019 were collected from the U.S. Census Bureau (2020). Population estimates and demographic information from 2020 were collected from World Population Review (2021).
- Rates in *Figures 1-4* were calculated using STI data from WEDSS and population data as described above. The rates from *Figure 5* were gathered from Wisconsin Department of Health Services Publications (2021a; 2021b).
- It is important to note that this report includes cases reported during a specific time period. Additional cases may be reported after the fact. Therefore, this data should be considered provisional and subject to change (CDC, 2019).
- We reviewed the sexual behavior and partner abuse findings from the Youth Risk Behavior Survey (YRBS) done in 2018 in Washington County. The health behaviors monitored in the Wisconsin YRBS are the most significant causes of morbidity and mortality during youth and into adulthood. Note, the YRBS has not been conducted in Ozaukee County resulting in a lack of data for sexual behavior and partner abuse in adolescents and young adults in Ozaukee County.
- Data regarding sexual assault and domestic violence were gathered from Annual Reports and interviews from Friends, Inc., Advocates of Ozaukee, and the Lakeshore Child Advocacy Center.

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Appendix A

Evidence Based Strategies to Reduce STIs

Condom availability programs:

Condom availability programs provide condoms free of charge to anyone, typically through events, community, and school site-based distribution (County Health Rankings & Roadmaps, 2021). Programs have been shown to increase condom acquisition and use, decrease risky sexual behavior, and reduce the incidence of STIs in high-risk populations (Charania et al., 2011). It is also likely that these programs decrease disparities. Free condom distribution programs are more effective when combined with other programs, such as events and mass media campaigns.

Behavioral interventions:

The goal of behavioral interventions is to improve healthy behavior, psychosocial functioning, and quality of life at the individual, group, and community levels (CHR&R, 2021). Individual-level and group-level interventions tend to focus on training and support, while community-level interventions tend to focus on sharing information and changing social norms within the target community. The main goal of all three levels is education (APHA, 2014). Behavioral interventions have been shown to reduce incidence of STIs, reduce risky sexual behavior, and increase condom use in a variety of settings and populations. Interventions tend to be most effective when culturally tailored and/or designed and delivered by individuals similar to the participants. Programs with skills building, such as proper condom use, negotiating safer sex, and consent, appear to be more effective than programs that do not include skills building. The National Network of STI Clinical Prevention Training (NNCPTC) and Behavioral Prevention Training Centers (BPTC) have courses that teach the use of evidence-based interventions (CDC, 2018).

Expedited partner therapy:

In expedited partner therapy, or EPT, health care providers give medications or prescriptions to patients diagnosed with a treatable STI, such as chlamydia or gonorrhea, to give directly to their partner(s) (CHR&R, 2021). The partner(s) do not need to be examined by a provider before the prescription is written. EPT has been proven to reduce the incidence of STIs and increase the number of partners who receive treatment, which has lessened the chance of reinfection of the index patient. The CDC recommends providing medication directly to partner(s) rather than a writing a prescription for the partner(s), as often prescriptions are not filled by the partner(s). Providing free EPT to clinicians may increase its use (Golden et al., 2015). It is still encouraged that providers recommend that partners follow-up with their own health care providers to be tested for HIV and other STIs (CHR&R, 2021). Although EPT has been shown to reduce bacterial STI incidence, this intervention could result in an increase use of antimicrobials by STI-uninfected people. Therefore, antimicrobial resistance needs to be considered (Weiss et al., 2019).

HIV/STI partner notification by providers:

There is evidence to support that HIV/STI partner notification by providers increases the likelihood that a sexual partner of someone recently diagnosed with HIV or an STI will also be tested (CHR&R, 2021). While primarily used for HIV and syphilis, it has been used for high priority

chlamydia and gonorrhea cases as well. Use of electronic methods of communication, such as email, texting, or social networking appear to be acceptable and effective, particularly when a partner is unreachable through other methods.

Mass media campaigns:

There is some evidence that mass media campaigns, including television, radio, internet, and print are effective at disseminating information about safe sex behaviors to large populations (CHR&R, 2021). However, it is likely that mass media campaigns tend to increase existing disparities. Mass media campaigns tend to be most effective when the messages are tailored to the target population over longer durations. They also appear to be more effective in low resource communities.

Social networking site interventions:

While more research needs to be done on the area, early research and expert opinions suggest that social networking site interventions are effective platforms for delivering health education (CHR&R, 2021). These programs are shown to increase knowledge of HIV and STIs, reduce risky sexual behaviors, increase condom use, and increase testing for STIs. Get Yourself Tested (GYT) and the National Campaign to Prevent Teen and Unplanned Pregnancy are examples of interventions that use Facebook and Twitter as part of multi-media campaigns aimed at adolescents and young adults (CDC, 2021b).

Appendix B

Sexual Wellness Intervention Planning Matrix

APPROACHES	SPHERES OF INFLUENCE		
	Individuals, Families, Social Networks	**Organizations & Institutions**	**Community (neighborhoods, municipalities, counties or state)**
Programs *Activities focused on increasing knowledge about health issues and/or promoting healthy behaviors or conditions.*	• Behavioral interventions (age appropriate conversations about sex ed. and human growth and development) • Partner abuse support (shelters, advocates) • Condom availability and STI testing availability- Utilization of free Condoms/ free testing clinics • Opting in for the YRBS	• Increase/provide access to STI testing • Frequent data updates • Implementing the YRBS in Washington and Ozaukee County school districts • Providing free condoms (Condom Availability Programs) • Continued coalition efforts • Provide in-person and online educator trainings	• Provide free condoms (Condom Availability Programs) • Provide access to STI testing • Provide partner abuse support • Youth panels/groups • Disseminate information • Continued coalition efforts
Systems Change *Change that impacts social norms of an organization, institution, or system; may include a policy or environmental change strategy. Policies are often the driving force behind systems change.*	• Social networking interventions • Age appropriate conversations (consent, growth and development, sexual orientation, etc.)	• Create mass media campaigns (i.e. HPV vaccination campaign) • Provide educator training • YRBS training and implementation	• Distribute and broadcast mass media campaigns • Provide peer education • Encourage comprehensive evidence-based curriculums implemented in county school districts • Increase sexual assault and domestic abuse survivors access to information and services • Enhance efforts to hold sexual assault and domestic violence offenders accountable
Environmental Change *Physical aspects of the environment that support healthy or discourage unhealthy behaviors and conditions.*	• Utilization of HPV vaccinations, condoms, and STI testing	• Provide free condoms (CAPs) • Provide access to STI testing • Implement the YRBS • Provide access to HPV vaccinations	• Encourage partner notification by providers • Provide condom availability program • Provide access to STI testing

Policy *Policies, rules, ordinances and laws that support healthy practices, actions and behaviors.*	• Opt in comprehensive evidence-based curriculums implemented in county school districts • Opting in for the YRBS • Support LGBTQ+ rights • Support rights for racial/ethnic minorities	• Allow Expedited Partner Therapy • Encourage partner notification by providers • Offer LGBTQ+ inclusive programming • Offer disability Training • Offer trauma sensitivity training • Implementing YRBS in all county public school districts • Implement comprehensive evidence-based curriculums in county school districts • Fund, support, and require data collection on STI and HPV vaccination rates • Sexual Assault service providers partner with local campuses to provide victim services • Support LGBTQ+ rights • Support rights for racial/ethnic minorities	• Implement comprehensive evidence-based curriculums in county school districts • Participate in the YRBS as a school • Allow Expedited Partner Therapy • Collect data on STI and HPV vaccination rates • Sexual Assault service providers partner with local campuses to provide victim services • Expand or abolish the statute of limitations for children • Support LGBTQ+ rights • Support rights for racial/ethnic minorities limitations for children

Appendix C

Local Resources	
Advocates of Ozaukee	Website: www.advocatesofozaukee.com 24 Hour Crisis Hotlines: (262) 284-6902 (877) 375-4034
Ascension Mobile Sexual Assault 2021 Center	Website: www.sane.doj.wi.gov Emergency Department: (414) 647-5207
Aurora Health Care – Healing and Advocacy Services	Website: https://www.aurorahealthcare.org/healing-advocacy-services#Crisis-Hotline 24 Hour Crisis Hotline: (414) 219-5555
Friends, Inc.	Website: https://friendswi.wixsite.com/friendswi 24 Hour Crisis Hotline: (262) 334-7298
Froedtert & College of Wisconsin – Sexual Assault Treatment	Website: https://www.froedtert.com/emergency/sexual-assault-nurse-examiner Sexual Assault Nurse Examiner Helpline: (262) 251-1000
Human Services	Ozaukee County: (262) 284-8200 Washington County: (262) 335-4610
Impact 211	211
Lakeshore Child Advocacy Center	Website: https://lakeshorecac.org/ Phone: (262) 358-9080
Planned Parenthood	West Bend: 1 (844) 493-1052 Milwaukee: 1 (800) 230-7526
Well Woman Program	Website: https://www.washozwi.gov/Services/Environmental-Health/Wisconsin-Well-Woman-Program Phone: (262) 335-4462

State/National Resources	
End Domestic Abuse Wisconsin: The Wisconsin Coalition Against Domestic Violence	Website: https://www.endabusewi.org/
Gay, Lesbian & Straight Education Network	Website: https://glsen.org
National Domestic Violence Hotline	24 Hour Crisis Hotline: 1-800-799-SAFE (7233)
National Human Trafficking Resource Center	1 (888) 373-7888
RAINN (Rape, Abuse & Incest National Network)	Website: https://www.rainn.org 24 Hour Sexual Assault Hotline: 1 (800) 656-4673
Trans Youth Equality Foundation	http://www.transyouthequality.org/
Wisconsin Coalition Against Sexual Assault	Website: https://www.wcasa.org/